REMARKS

The Examiner has required an election in the present application between:

Species 1, corresponding to claims 44-47, 60-61, and 88; which allegedly corresponds to a waveform shaping method comprising in which waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a predetermined pulse width, irrespective of the pulse width;

Species 2, corresponding to claims 48-50, 52, 60-61, 82, and 89; which allegedly corresponds to a waveform shaping is carried out by shortening, by a predetermined value, that pulse width of the input signal which is recognized from the sampling signal, irrespective of the pulse width;

Species 3, corresponding to claims 51, 53, 60-61, 82, and 90; which allegedly corresponds to a waveform shaping is carried out by lengthening, by a predetermined value, that pulse width of the input signal which is recognized from the sampling signal, irrespective of the pulse width;

Species 4, corresponding to claims 54, 58-61, and 91; which allegedly corresponds to a waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width;

Species 5, corresponding to claims 55 and 92; which allegedly corresponds to a waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to or smaller than a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width;

Species 6, corresponding to claims 56 and 93; which allegedly corresponds to a waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to an inverse number of the sampling clock frequency, irrespective of the pulse width;

Species 7, corresponding to claims 57, 60-61, and 94; which allegedly corresponds to a waveform shaping step being such that (I) a no-pulse period, which is recognized from the

sampling signal, is detected, and (II) if the no-pulse period is less than a setting value, waveform shaping is so carried out, irrespective of a pulse width, as to modify the no-pulse period to the setting value by (i) shifting a position of a pulse adjacent to the no-pulse period or (ii) shaping the pulse;

Species 8, corresponding to claims 62, 65, 68, 75-80, 83, and 95; which allegedly corresponds to a waveform shaping step being such that (I) a pulse width recognized form the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is equal to or larger than the second reference value, the pulse width is reduced by the constant value, irrespective of the pulse width;

Species 9, corresponding to claims 63, 66, 69, 75-80, and 96 (which the Examiner failed to identify); which allegedly corresponds to a waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is larger than the first reference value but less than the second reference value, the pulse width is reduced, irrespective of the pulse width, so that the pulse width is made as close to the first reference value as possible;

Species 10, corresponding to claims 64, 67, 70, 75-78, and 97; which allegedly corresponds to a waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) the pulse width is not reduced if the pulse width is equal to or less than the first reference value;

Species 11, corresponding to claims 71-75 and 98; which allegedly corresponds to a waveform shaping step being such that (I) a pulse interval recognized from the sampling signal is compared with an interval reference value, and (II) if the pulse interval is less than the interval reference value, the pulse interval is lengthened, irrespective of a pulse width, by (i) shifting a position of a pulse adjacent to the no-pulse period for (ii) shaping the pulse so that the pulse interval is made as close to the interval reference value as possible, the pulse interval being a width of a period having no pulse;

Species 12, corresponding to claims 81 and 99; which allegedly corresponds to a waveform shaping step being such that (I) a width of the pulse in the input signal is compared with a reference range determined in accordance with the width of the pulse, and (II) if the width of the pulse is out of the reference range, waveform shaping is so carried out as to make the width of the pulse fall within the reference range;

Species 13, corresponding to claims 84 and 100; which allegedly corresponds to a waveform shaping means compares a first symbol count with a first reference value and a value which is a constant value larger than the first reference value, where (i) the first symbol count is a number of symbols in a first symbol string having been replaced for a pulse-existing period, and (ii) a second symbol count is a number of symbols in a second symbol string having been replaced for a no-pulse period adjacent to the pulse-existing period, and if the first symbol count is equal to or more than the second reference value, the waveform shaping means partially replaces the first symbol string with the second symbol string by the constant value, irrespective of a pulse width of the pulse signal generated through the signal processing, so as to shorten the pulse-existing period; and

Species 14, corresponding to claims 85 and 101; which allegedly corresponds to a waveform shaping means compares a second symbol count with an interval reference value, where (i) the first symbol count is a number of symbols in a first symbol string having been replaced for a pulse-existing period, and (ii) a second symbol count is a number of symbols in a second symbol string having been replaced for a no-pulse period adjacent to the pulse-existing period, and if the second symbol count is less than the interval reference value, the waveform shaping means partially replaces the first symbol string with the second symbol string in such a manner that the second symbol count is equal to the interval reference value, irrespective of a pulse width of the pulse signal generated through the signal processing, so as to lengthen the no-pulse period.

For the purpose of examination of the present application, Applicants elect Species I, with traverse. Claim(s) 44-47, 60, 61 and 88 are directed to the elected species.

In electing Species 1, the Examiner should consider that the features of Species 1 is generic to the features of Species 1, 4, 6, and 9.

The features of Species 1, 4, 6, and 9 are the following underlined parts.

(1) Species 1

Waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a predetermined pulse width, irrespective of the pulse width.

(2) Species 4

Waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal closer to a minimum pulse width of the input signal in the sampling signal, irrespective of the pulse width.

(3) Species 6

Waveform shaping is carried out by making that pulse width of the input signal which is recognized from the sampling signal equal to an inverse number of the sampling clock frequency, irrespective of the pulse width.

(4) Species 9

The waveform shaping step being such that (I) a pulse width recognized from the sampling signal is compared with (i) a first reference value, and (ii) a second reference value which is larger than the first reference value by a constant value, and (II) if the pulse width is larger than the first reference value but less than the second reference value, the pulse width is reduced, irrespective of the pulse width, so that the pulse width is made as close to the first *reference* value as possible.

The feature of Species 1 of "making that pulse width ...closer to a predetermined pulse width" is generic (comprehensive concept) to the underlined features of Species 4, 6, and 9. To be more specific, "a predetermined pulse width" in Species 1 is embodied as "a minimum pulse width of the input signal in the sampling signal" in Species 4, "(pulse width) equal to an inverse number of the sampling clock frequency" in Species 6, and "the first reference value" in Species 9.

Therefore, at a minimum, the Examiner should examine Species 1, 4, 6, and 9

together. However, if the Examiner maintains the Species requirement, then the Examiner should be aware that if Species 1 would be considered as being patentable by the Examiner, then at least Species 4, 6, and 9 should be patentable as also allowed.

Also, the Examiner did not include claim 96 in the Species Requirement. Applicants have incorporated claim 96 into Species 9.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

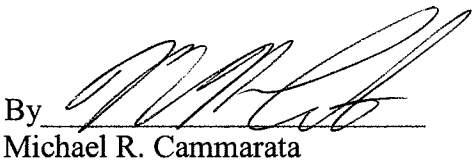
☐ Attached is a Petition for Extension of Time.

☐ Attached hereto is the fee transmittal listing the required fees.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: October 16, 2008

Respectfully submitted,

By 

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